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(72) Inventors; and

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1/79449 A

(54) Title: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

(57) Abstract: The present invention provides novel nucleic acids, novel polypeptide sequences encoded by these nucleic acids and uses thereof.

1	CECUR	ICCO ID	INA.	ICEO ID NO.	IN	INC. N. CO.	
1	SEQ ID NO: of	SEQ ID NO: of		SEQ ID NO:	Nucleotide location of		Amino acid sequence ( X=Unknown; *=Stop
- 1	nucleo-tide	peptide	d	09/770,160	first codon	location of last	codon; /=possible nucleotide deletion; \=possible
1	sequence	sequence	۳	05/7/0,100		amino acid of	indiceoude insertion)
	0040000		1	1	sequence	peptide	1
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١			1		1		TSPSPGTRAASQPPNSSK\AGRKPW
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ı		1	Į.	j	1	ļ	KLRAPFSQQPHSRMKPAGS\VSDMA
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ŀ	1746	7243	A	1876	<del>                                     </del>	668	GERGVARHDRPRGTLREYKVVGRC
١	1770	1245	^	1070	l * .	000	LPTPK\CHTPPL\YR\MRIFAP*SMSSL
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ŀ			j	į	į.		CAQVFEKSP\LRVK\NFGIWLR\YDS
١		l	1		ŀ		RSG\THNMY\REY\RDLDHPQAPVHP
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1	1747	7244	-	1877	-	1050	MILLE YOU SOUTH CHANGE IN
ļ	1747		A		1	1059	<u> </u>
L	1748	7245	Α	1878	87	260	
1	1749	7246	Α	1879	1	1254	
ſ	1750	7247	A	1880	160	615	PSLNTYVTSPLSENFSARYRNHSND
1			1				LTCVHTELQNKTKLTVLEGDILDEP
١							FLKRACQ\DVSVI\IHTACIIDVFGV\T
1			`				HRESIMNVNVKGRVAWGGDKARW
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ı			} ;				GNEDQKEGQEGKRSLSIEHLLCSGP
ł			1				SDFADHYQLGELKAAIFSFIDEKTRT
·L							EQ
١	1751	7248	A	1881	53	1338	CPLQGHPRVTLESDLLPSIFCFLVSD
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1		-	1 1				RIVRLLVEEKELKEIRALDKAFRPEL
ı							REEFSKLQ\NK\TKLTVLEGDILDEPF
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							ASVPVFIYTSSIEVAGPNSYKEIIQNG
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1	1						VLAANGWNLK\NGGALYTCALRPM
	]			,			YIYGEGSRFLSVSINEALNNNGILSS
							VGKFST\VNPVYV\GNVAWGHILAL
					. [		RALQDPKKAPSIRGQFYYISDDTPH
1					·		QSYDNLNYTL\SKE\FGPPPLDSRW\S
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	1		ll	İ	1	İ	
1	ì					ł	GFSEILGVLRPLLTAGGGKAKAGKR
L			$\sqcup$	1			VGSWVWVPFVDPAQGRNLEVPRIQ
	1752	7249	A	1882	3	575	HSLFGTSEVINKLLVPDA\MGHFTEE
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1	· •	j				i	GKGSLVVYP\WTQRF\FD\SFGNLSS
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ı	į	·		.			MPTKHLE*FSRGTFCPSLK*TCTC*Q
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l	1	. }				- 1	T T
1		]	ŀ	· j		1	QSHFRQKNFTPEGARFFLGRKMGD
L		لحيني					LELASALVPSRLPLKPLGP
ľ	1753	7250	A	1883	1	960	GRPAPEDGGPLSLPNAAMARGPKK
ı	- 1	l	- 1	ł	. 1	l	HLKRVAA\PKHWMLDKLTGVFAPR
l	1	}	- 1	}		j	PSTGPHKL\RECLPFIIF\LRNRLKYA
				1		1	LTS\DEVKKICMQRFIKI\DGQVR\TD
	- 1	,	- 1	- 1	1	I	ITYP\AGFMDVI\SIDKDGREFSVL/Y
١	. ]	į			1	·	
1	j	j	]		}	j	LIDTQGVRFCL*HRITP*GRAKVQSC
L							AKMRKILLWAPKGIPSSWVT\HDAR

SEQ ID NO: of	SEQ ID NO: of		SEQ ID NO:	Nucleotide location of	Nucleotide location of last	Amino acid sequence ( X=Unknown; *=Stop codon; /=possible nucleotide deletion; \=possible
nucleo-tide		ď	09/770,160	first codon		nucleotide insertion)
	bequence	.		sequence	peptide	
	<del> </del>	+-	<del> </del>	<del> </del>	sequence	NHPATPDPPSSKVN*YHFRLDLETG
			l			KDYLISSKFDTW*PCVMVT\GGA\N
						LGRNWVLITN\RERHPGIF*PLVHVK
1		1				\DANGNKLLATSDFSNIFWLLGKGN
		1				KPW\ISL\PRGKGIPPHHLLEERDKRL AAKQSSWVKWGPWVTWSDLLVP
1754	7251	A	1884	1	1218	FFQNSARGAGAGWQLPWTRFVWT\
1				}:		SGLLEINE\TLVIQQRGVRIYDGEEKI
1				1		KFDAGTLLLSTHRLIWRDQKNHEC
ŀ				1		CMAILLSQI\VFIEEQA\AGIGKSAKI VVHL\HPAPPNKEPGP\FQSSKNSYI
•		1			1	KLSFKEHGQIEFYRRLSEEMTQRRW
		1.				ENMPVSQSLQTNRGPQPGRIRAVGI
		1				VGTERKLEEKRKETDKNISEAFEDL
	<u> </u>			l		SKLMIKAKEMVELSKSIANKIKDKQ
			-			GDITEDETIRFKSYL\LSMGIANPVT
ļ	1			· ·		RETYGSGTQYHM\QLAKQL\AWNIA RVPLEERGGIMSLTEVYCLVNRARG
}	] ·			}	_	MELLSPEDLVNACKMLEALKLPLR
	1	1 1				LRVFDSGVMVIELQSHKEEEMVAS
		1 1				ALETVSEMGSLTS*EFAKLVGMSVL
						LAKERLLLAEKMGHLCRDDSVEGL RFYPNLFMTQS
1755	7252	C	1885	179	361	MPKVCFVHNFLKTSSERDLFALMN
	1	1 1				TVGKKHSIMSEKGRSKKFLHLIDSK
1256	5050	╀┼	1004			KNEDPHLDGTL*
1756	7253	A	1886	2	913	RRLLLFGWARSGAVSLGSAGVSSS GFLTAPHSRRLTAAAAAAGGAWRF
						EAERHRGWGAEEEQQPEGGAVCPG
						TERPCAMAYAYLFKYIIIGDTGGGR
	1					SCLLLQFTDKRFQPSAMTLTNGVEF
		11				GARMITIDGKQIK\LQIW\DTAGQES\
ı		1 1				FRSITR\SYY\RGAAGALLVYDITR\R DTSTHLTTW\LEDA\RQHSHFQHGS
į						LCLLGNKSDL\ESRKE/VSKKRKEGE
				•		SFLQPRNHGLHLPWKTSCKNCFPM*
		1 1				KEAFINTSKRNFIEKIQ\EGVFDINNE
		11				ANGIKIGP\QHAATNATHAG\NQGG
1757	7254	A	1893	138	426	QQAGGGCC   FIHSHCCIVFRLFIHFSLHPKVIHSPIN
ŀ	. ,					SLLRIFQF*AIMNSTV*NILIHVFW*V
			•			YTFPF\GINPKKGIARL*GVYIFSFSIY
1758	7255		1004	46	1067	CQTVFQSDCKKAPF
1,50	ا دىء،	A	1894	45	1057	FLVFLVETGFHHVAQAVLELLASSD PPALAPPKCWDYRCELLRLAEFCFL
						RTEFWYLLFFFFWRRSLALSPRLEC
	į	11				SGANL\THCNLR/LPGFKQFSCLSLSS
	i		1	1		SWDYRCMPPHLATFFVF/SVETGFH
,			.			RVAQASLELLSSGSLPALA/FPKC\W
l			İ	. I	•	DYRAKATV/WPSPGVSSFILGL*TS* FHSLEPYLHAWKTTSHLPTKEALT
`	·				1	W/VSHTAKTKHLWILVSILMEF*VA
					1	LIS/SFFLGPGGK*T*VTAPQCPSLGQ
-	·		-	1		DTLS*FLHAACTRSVPYPGLA/CGPS
	l		.		l	LWLTRVLLLPTPP*QQHNP/DTLEKT
				ľ		SFPGPHWIL*/TPQPSLSETPAPKVPP FPAFGSIPTHEEPGLP
1759	7256	A	1895	2	289	

SEQ ID NO: of nucleo-tide sequence	SEQ ID NO: of peptide sequence	tho	SEQ 1D NO: in USSN 09/770,160		peptide sequence	Amino acid sequence (X=Unknown; *=Stop codon; /=possible nucleotide deletion; \=possible nucleotide insertion)
1760	7257	A	1896	1	397 ·	
1761	7258	A	1897	1	410	STMISPVLILFSSFLCHVAIAGRTCPK PDDLPFSTVVPLKTFYEPGEEITYSC KPGYVSRGGM/RKFICPLTGLWPIN TLKCTPRVCPFAGNLRKMGAVRLIT DFLNYSPTRFSFSLLTWGFILEWAL DS\AKCIEGG
1762	7259	A	1898	19	1215	CQCDSSTMIFSRCSSLFSSFLCHVAI AGRTCPKPDDLPFSTVVPLKTFYEP GVEEITYSCKPGYVSRGGIEESLSCPL VTGTVGPFNTSGNVTPRVCPFVAGIFR KMGGRTLITTF*NYPNTDPVFSLLTL GF*FWNGALDFWPSCTGGKGKWS PVELPGLVAPII\CPP\PSIP\TGFATLH VLLRPFRLGNNSPPIGDTAVFECLA HNMAMFG\NDTIT\CTTHGKLDLNY PECRGSKMPPFPHQDPDNGIW*TYP CQNPNTLFTRVKAPHLGLPHDGIFS GMGPRKEINEC*PQTWGKPGSWPLA PSW*KPSLVKGTPVKKRPTVV/YPQ GERVKDSREKFKEWECLHG**KFLS FCKNKEKKCSYTEDAQCIDGTIEVP KCFK\EHSSLAFWKT\DAS\DVKPC
1762	7260	٠,	1899	58	446	RCIREIISBEAT WATER THE
1763 1764	7260 7261	$\frac{A}{A}$	1900	138	954	MGEVSGTSDCTDDQCRQVKKALEG
						GKAARGHRSKIKIRFFRPGGLGPGP AITAVAGMPRVYIGRLSYQAREHA VERLLNGHAKILEVDLKNGYGFVE FDDLRDADDAVYELNGKDLCGERV IVEHARGPRRDGSYGSGRSGYGYR RSGRDKYGPPTRTEDRLIVEN/LTSR CSWQDLKDYMRQAGEVTYADAHK GRQKMKGVIEFVSYSDMKRALEKL DGTEVNGRKIRLVEDKPGSRRRRSY SRSR\SHSRSRSRSRSRSKSRSRSGSS KSSHSKSRSRSRSRSRSKSRSRSGSS KSSHSKSRSRSRSRSKSRSRSQSR SRSKKEKSRSPSKDKS\RSRSHSA\ GKSRSKKKDQAE\EKFQNNDNV\GK PKSRSPSRHKSKSKSRSQERRVEE GRKRGSF*QG/EAQEKSLRQSRS\ SRSKAGSR*PVDRSRSKSKDKRKSR KRSREESRSRSRSRSKSERSKRG\S KRDSKAS\SCKKKKKEDTDRSQSRS PSRSV\SKEREHA/RSLESSQREGRG ESENAGTNQEDPGPGPRSN\SKSKP NLPIRMHRSKIKSQASKTPISGPMSR SR\SASRSP\SRSRSKSRSRSQSRSRS KKEKSRSPSKDKSLQPQP
1765	7262	$\perp$	1901	3	180	
1766	7263	A	<del></del>	227	440	GMHNVCYVAVNE*FCGFIIR*SLAE RRQIS*EFQLFKFTLCLELILARRAC RESMA\$PVAGSWSHFPEREF
1767	7264	A	1903	2	438	HEELDTSERKIEFDSASGTYTLYLIV GDAHFEEPQSLWNVADLVHQSPPE EKAPLDLSCPQNLFTPK\QEIQWIRI GA\NVS\NFTFAP\STIIFH\LGHA\AM LGLMYVYWTQLNMF\QTLKYLAIL GSVTFLAGNRMLAQQAVKRTAH



SEQ ID NO: of nucleo-tide sequence	sequence	tho	SEQ ID NO: in USSN 09/770,160	location of first codon for peptide sequence	Nucleotide location of last codon for last amino acid of peptide sequence	Amino acid sequence ( X=Unknown; *=Stop codon; /=possible nucleotide deletion; \=possible nucleotide insertion)
1760	7257	Α	1896	1	397.	
1761	7258	A	1897		410	STMISPVLILFSSFLCHVAIAGRTCPK PDDLPFSTVVPLKTFYEPGEEITYSC KPGYVSRGGMRKFICPLTGLWPIN TLKCTPRVCPFAGNLRKMGAVRLIT DFLNYSPTRFSFSLLTWGFILEWAL DS\AKCIEGG
1762	7259	A	1898	19	1215	CQCDSSTMIFSRCSSLFSSFLCHVAI AGRTCPKPDDLPFSTVVPLKTFYEP G\EEITYSCKPGYVSRGGIEESLSCPL \TGTVGPFNTSGNVTPRVCPF\AGIFR KMGGRTLITTF*NYPNTDPVFSLLTL GF*FWNGALDFWPSCTGGKGKW\S P\ELPGLVAPII\CPP\PSIP/TGFATLH VLLRPFRLGNNSPPIGDTAVFECLA HNMAMFG\NDTIT\CTTHGKLDLNY PECRGSKMPPFPHQDPDNGIW*TYP CQNPNTLFTRVKAPHLGLPHDGIFS GMGPRKE\EC*PQTWGKPGSWPLA PSW*KPSLVKGTPVKKRPTVV/YPQ GERVKDSREKFKEWECLHG**KFLS
,			·			FCKNKEKKCSYTEDAQCIDGTIEVP KCFK\EHSSLAFWKT\DAS\DVKPC
1763	7260	A	1899	58	446	an all way in the
1764	7261	A	1900	3	954	MGEVSGTSDCTDDQCRQVKKALEG GKAARGHRSKIKIRFFRPGGLGPGP AITAVAGMPRVYIGRLSYQAREHA V\ERLLNGHAKILEVDLKNGYGFVE FDDLRDADDAVYELNGKDLCGERV IVEHARGPRRDGSYGSGRSGYGYR RSGRDKYGPPTRTEDRLIVEN\LTSR CSWQDLKDYMRQAGEVTYADAHK GRQKMKGVIEFVSYSDMKRALEKL DGTEVNGRKIRLVEDKPGSRRRRSY SRSR\SHSRSRSRSRSKSRSRSQSS KSSHSKSRSRSRSRSGSS KSSHSKSRSRSRSRSKSRSRSQSS KSSHSKSRSRSRSRSGSSRSRSKSRSRSQ SRSRSKKEKSRSPSKDKS\RSRSHSA\ GKSRSKSKDQAE\EKFQNNDNV\GK PKSRSPSRHKSKSKSRSRSQERRVEE GRKRGSF*QGQ/EAQEKSLRQSRSR\ KRSREESRSRSRSRSKSERSRKRG\S KRDSKAS\SCKKKKKEDTDRSQSRS PSRSV\SKEREHA/RSLESSQREGRG ESENAGTNQEDPGPGPRSN\SKSKP NLPIRMHRSKIKSQASKTPISGPMSR SR\SASRSP\SRSRSKSRSRSQSRSRS KKEKSRSPSKDKSLQPQP
1765	7262					
1766	7263	A	1902	227	440	GMHNVCYVAVNE*FCGFIIR*SLAE RRQIS*EFQLFKFTLCLELILARRAC RESMAŞPVAGSWSHFPEREF
1767	7264	A	1903	2	438	HEELDTSERKIEFDSASGTYTLYLING GDAHFEEPQSLWNVADLVHQSPPE EKAPLDLSCPQNLFTPK\QEIQWIRIGA\nvs\nftfap\stiifh\LGHA\AM LGLMYVYWTQLNMF\QTLKYLAIL GSVTFLAGNRMLAQQAVKRTAH

	SEQ ID	SEQ ID		SEQ ID NO:			Amino acid sequence ( X=Unknown; *=Stop
1768   7265   A   1904   J   1660   PULKTHPGPQSLPRVPGVPCGGLLE   Ppildic requerce   Ppil	NO: of		1 1				codon; /=possible nucleotide deletion; \=possible
1768   7265   A   1904   1   1660			0	10,100			nucleoffice insertion) .
1768   7265   A   1904   1   1660	sequence	Sequence				,	1
1769   7266   A 1905   156   2369			L	·			
PLSRAEVSPRÉGLRDLLGGMAPPG   SSTVFLLALTILASTWALTPTHYLTK   HDVERLKASLDRPFTNLESAFYSIV   GLSSLGAQVPDAKKACTYIRSNLDP   SNVDSLFYANQAISQG/SGCEISSN   ETKDLLLAVSEDSSVYPRSYHAS   WQL*SGLLGLSLWAVPKESTQVAL   NWLVFKQGKETVLATVQALQTAS   HLSQQADLRSIVEBIEDLVARLDEL   GGLYLQ/FEGLETTALFVAATYKA   LMDHWGTEPSIKEDQVIQLMNAI   PSKKNFESLSEAFSVASSQAAVLS   HNRYHVPVVVPEGSASDTHEQAI   LRLQVTNVLSQPLTQATVKLEHAK   SVASRATVLQKTSFTPWGIVFELNF   MNVKFSGG*CDFLVEVEGDNRYIS   NTVELRVQDPPTEVGITNVDLSTV.   DKDQSIAPQTTRVTYPAKAKGTFH   SAGQATRNFGLVLSSW*DVNTGGAE   LTPHQTTFVRLHNQKTGPSGCLFAE   PGQQGTCVKFELDTSERKGLNLTSR   SGTYTLVLIIG*CQL *PTQUL *KKCGMFRILFPGRP*GRRAPPWCP   NTTFAPESFFGPLLACFRGSGCLFAE   PKQGMFRILFPGRP*GRRAPPWCP   NTTFAPESFFGPLLACFRCLFULWIND   WVPKCLPTFTCFLSTIIFHPWDML   AYAGTSMYVY*TQACPCSQTLEVP   WPILGQCDRFLAGQSGMLAPARQV   KRIAARQSSRLAKYRTLATAH   AYAGTSMYVY*TQACPCSQTLEVP   WPILGQCDRFLAGQSGMLAPARQV   KRIAARQSSRLAKYRTLATAH   AYAGTSMYVY*TQACPCSQTLEVP   WPILGQCDRFLAGQSGMLAPARQV   KRIAARQSSRLAKYRTLATAH   AYAGTSMYVY*TQACPCSQTLEVP   WPILGQCDRFLAGQSGMLAPARQV   KRIAARQSSRLAKYRTLATAH   AYAGTSMYVY*TQACPCSQTLEVP   WAASFLYAPDPRAHEVEHVVN   AILFLLSDRSGMTTGSTLPVEGGFW   AC			_				
SSTYFILALTIIASTWALIPHTYLTK   HDVERLKASLORPFTNIESAFYSIV     GLSSLGAQVPDAKKACTYRSNLDP  SNYDSLFYANQAISQGLSGCEISISN     ETKDLILANASEDSSVYPRSYHAS     WQL*SGLIGLSLWAVPKESTQVAL     NWLVFKQGKETYLATVQALQTAS     HLSQQADLRSIVEEIEDLVARLDEL     GGLYLQFEEGLETTALFVAATYKA     LMMPHVGTEPSIKEDDLVARLDEL     GGLYLQFEEGLETTALFVAATYKA     LMMPHVGTEPSIKEDDLVQLMMAI     FSKKNFESLSEAFSVASGAAVLS     HNRYHYPVVVVPEGSASDTHEQAI     LRLQVTNVLSQHITQATVKLEHAK     SVASRATVLQKTSFTPWGIVPELNF     MNVKFSGG*CDF1LVEVEGDNRYIS     NTVELRYQDPFTEVGITNVLSTYL     DKDQSIAPQTTRVTYPAKAKGTFH     SAGQATRNFGGVLSSW*DVNTGAE     LTPHQTFVRLHNQKTGPGSGCLFAE     PGQGTCYKFELDTSERKGLNLTSR     SGTYTLYLIIG*CQL*RTQLWKCGL     MWVIKFP*GKEASFDCLCSQEPFSL     PKQGNFRHLFPGRP*GRAPPPWCP     NTFTAPESFFGPLLACFLRLLWRD     WVPKCLPTTFCLSTIIFHPWDML     AYAGTSMYVY*TQAQPCSQTLEVP     WPILGQCDRFLAGQSGMLAPARQV     WRIAAGSSRLAKYRTLRTAH     WVPKCLPTTFFCLSTIIFHPWDML     AYAGTSMYVY*TQAQPCSQTLEVP     WPILGQCDRFLAGQSGMLAPARQV     WRIAAGSSRLAKYRTLRTAH     TYTO   7267     A 1906   37   404     PQLSRCRSECMYVNPTVVMTSMGG     ATWSDPHKKAKTMLNRIPLGKFAGE     SGGSPASVVPAVPVCALGRGRER     WAAASFLYAPDPRRAHEVEHVVN     ALFLSDRSGMTTGSTLPVEGGFW     AC     SVGPVDLLVNNAAVALLQFFLEV     TKEAFDR*ACEGGGTSGRGCGGGR     SPNL*PGSVPRPLDPIRKVNLRAVIQV     QG*WALELGPHKLSKCSSQNAVV     NPHSGG*RSMGPGPPWSDPHKVAK     MNRIPLCKFAGESEVEHVVNAUL     FLSDRSGMTTGSTLPVEGGFWAW     LSSLHTPQAPWACFILTPNFSNKT     AREGSGLVAPRSRPPWEHGLPGEHS     DAPRPHKSPTLPWLPHLHISKEAL     DTHQRSQHEECMPLYKFTPTTSER     PQLMLPLPEQQCEQLCRGSTPTVT     A 1908   2   305     AREGSGLVAPRSRPPWEHGLPGEHS     DAPRPHKSPTLPWLPHLHISKEAL     DTHQRSQHEECMPLYKFTPTTSER     PQLMLPLPEQQCEQLCRGSTPTVT     A 1909   2   529     GTVAACGACYWLLGLMAVRASFE     NNCEIGCFAKLTNTYCLVAIGGSEN     FYSVEGGLSDTIPVYHASIAGCRIIG     RMCVGTESLLADVLKVEVFRQTVA     RMCVGTESLLADVLKVEVFRQTVA     RMCVGTESLLADVLKVEVFRQTVA     RMCVGTESLLADVLKVEVFRQTVA     RMCVGTESLLADVLKVEVFRQTVA     RMCVGTESLLADVLKVEVFRQTVA     RMCVGTESLLADVLKVEVFRQTVA     A 1909   2   1000     TYNCH     TYNCH     TYNCH     TYNCH     TYNCH     TYNC	1769	7266	] A	1905	156	2369	
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### WHAT IS CLAIMED IS:

- 1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 1-5497, a mature protein coding portion of SEQ ID NO: 1-5497, an active domain of SEQ ID NO: 1-5497, and complementary sequences thereof.
- 2. An isolated polynucleotide encoding a polypeptide with biological activity, wherein said polynucleotide hybridizes to the polynucleotide of claim 1 under stringent hybridization conditions.
- 3. An isolated polynucleotide encoding a polypeptide with biological activity, wherein said polynucleotide has greater than about 90% sequence identity with the polynucleotide of claim 1.
  - 4. The polynucleotide of claim 1 wherein said polynucleotide is DNA.
- 15 5. An isolated polynucleotide of claim 1 wherein said polynucleotide comprises the complementary sequences.
  - 6. A vector comprising the polynucleotide of claim 1.
- 20 7. An expression vector comprising the polynucleotide of claim 1.
  - 8. A host cell genetically engineered to comprise the polynucleotide of claim 1.
- A host cell genetically engineered to comprise the polynucleotide of claim 1 operatively
   associated with a regulatory sequence that modulates expression of the polynucleotide in the host cell.
  - 10. An isolated polypeptide, wherein the polypeptide is selected from the group consisting of:
    - (a) a polypeptide encoded by any one of the polynucleotides of claim 1; and
    - (b) a polypeptide encoded by a polynucleotide hybridizing under stringent conditions with any one of SEQ ID NO: 1-5497.
  - 11. A composition comprising the polypeptide of claim 10 and a carrier.
- 35 12. An antibody directed against the polypeptide of claim 10.

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13. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

- a) contacting the sample with a compound that binds to and forms a complex with the polynucleotide of claim 1 for a period sufficient to form the complex; and
- b) detecting the complex, so that if a complex is detected, the polynucleotide of claim 1 is detected.
  - 14. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

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- a) contacting the sample under stringent hybridization conditions with nucleic acid primers that anneal to the polynucleotide of claim 1 under such conditions;
  - b) amplifying a product comprising at least a portion of the polynucleotide of claim 1; and
- c) detecting said product and thereby the polynucleotide of claim 1 in the sample.
  - 15. The method of claim 14, wherein the polynucleotide is an RNA molecule and the method further comprises reverse transcribing an annealed RNA molecule into a cDNA polynucleotide.
- 20 16. A method for detecting the polypeptide of claim 10 in a sample, comprising:
  - a) contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex; and
  - b) detecting formation of the complex, so that if a complex formation is detected, the polypeptide of claim 10 is detected.
  - 17. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:
    - a) contacting the compound with the polypeptide of claim 10 under conditions sufficient to form a polypeptide/compound complex; and
- 30 b) detecting the complex, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.
  - 18. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:

a) contacting the compound with the polypeptide of claim 10, in a cell, under conditions sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and

- b) detecting the complex by detecting reporter gene sequence expression, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.
  - 19. A method of producing the polypeptide of claim 10, comprising,
- a) culturing a host cell comprising a polynucleotide sequence selected from the group consisting of a polynucleotide sequence of SEQ ID NO: 1-5497, a mature protein coding portion of SEQ ID NO: 1-5497, an active domain of SEQ ID NO: 1-5497, complementary sequences thereof and a polynucleotide sequence hybridizing under stringent conditions to SEQ ID NO: 1-5497, under conditions sufficient to express the polypeptide in said cell; and
  - b) isolating the polypeptide from the cell culture or cells of step (a).
  - 20. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 5498-10994, the mature protein portion thereof, or the active domain thereof.

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- The polypeptide of claim 20 wherein the polypeptide is provided on a polypeptide array.
- 22. A collection of polynucleotides, wherein the collection comprises the sequence information of at least one of SEQ ID NO: 1-5497.
- 25 23. The collection of claim 22, wherein the collection is provided on a nucleic acid array.
  - 24. The collection of claim 23, wherein the array detects full-matches to any one of the polynucleotides in the collection.
- 30 25. The collection of claim 23, wherein the array detects mismatches to any one of the polynucleotides in the collection.
  - 26. The collection of claim 22, wherein the collection is provided in a computer-readable format.

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27. A method of treatment comprising administering to a mammalian subject in need thereof a therapeutic amount of a composition comprising a polypeptide of claim 10 or 20 and a pharmaceutically acceptable carrier.

A method of treatment comprising administering to a mammalian subject in need thereof a therapeutic amount of a composition comprising an antibody that specifically binds to a polypeptide of claim 10 or 20 and a pharmaceutically acceptable carrier.